DOCUMENT RESUME

ED 380 523 UD 030 333

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TITLE Interest Levels of Participants from Two Intervention Programs: A Comparison of "At-Risk" Youth.
PUB DATE May 95
NOTE 13p.; Paper presented at the Annual Meeting of the Global Awareness Society International (4th, Shanghai, China, May 1995).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Comparative Analysis; Higher Education; *High Risk Students; Intermediate Grades; Junior High Schools; Middle Schools; Minority Groups; *Program Effectiveness; Program Improvement; *Rural Youth; *Student Interests; Student Motivation; Urban Schools; *Urban Youth
IDENTIFIERS *Middle School Students; Pennsylvania

ABSTRACT

The interests of two different at-risk populations in Pennsylvania are compared. Both urban minorities and rural youth participated in programs designed to motivate them to continue their education. Participants (52 rural and 30 urban middle school students) completed an interest survey as part of the program orientation. Although the rural youth measured significantly high in many survey areas, the urban minorities measured higher than rural participants for many areas, including motivation, science interest, and general interest. Rural youth enter higher education in significantly lower proportions than their urban counterparts. Lower interest scores may reflect the lack of reflective programming for rural youth. With a general lack of programs and funds for at-risk rural youth at the state and federal levels, the rural youth are being overlooked in terms of educational opportunity. Further study is needed to better understand motivation of "at-risk" youth and effectiveness of precollege programs designed to help them. Two tables summarize study findings. (Contains 9 references.) (Author/SLD)

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Paper presented at the 4th Annual Meeting of the

Global Awareness Society International

Eastern China Normal University

Shanghai, China

May 17, 1995

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Abstract

The present study contrasts interests of two different "at risk" populations in Pennsylvania. Both urban minorities and rural youth participated in intervention programs designed to motivate them to continue their education. Although the rural youth measured significantly high in many survey areas, the urban minorities measured higher than the rural participants for many survey items in areas including motivation, science interest and general interest. Rural youth enter higher education in significantly lower proportions than their urban counterparts. With a general lack of programs and funds for at-risk rural youth at the federal level, the rural youth are being overlooked in terms of educational opportunity. Further study is needed to better understand motivation of "at risk" youth and effectiveness of pre-college programs designed to help them.

Key words: At-risk youth
Urban Youth
Rural Youth
Pre-college programs

Interest Levels of Participants from Two Intervention Programs: A Comparison of "At-Risk" Youth

Introduction

"At risk" youth are those with a high probability of never realizing their potential. When they are in the public education system, a main problem faced by "at risk" youth is undereducation. The present study deals with two different populations, each "at risk" due to different factors. The purpose of the present study is to better describe "at risk" youth populations from two main regions in Pennsylvania.

Youth "at risk" are those with at least one risk factor. Risk factors summarized by Stern (1994) are single-parent family, low parent education, limited English, low family income, sibling dropout, and more than three hours alone at home. A 1988 summary of "at risk" youth (Stern, 1994) notes that 26.07 percent of rural youth and 26.74 percent of urban youth have one risk factor. The percentage of students with two or more risk factors is 21.07 percent of rural youth and 26.06 percent of urban youth.

"At risk" urban youth have a lower probability of completing high school than their rural counterparts. Rural youth, who have a consistently high rate of high school graduation, also are "at risk" because they advance to higher education in significantly lower proportions than other youth in Pennsylvania. Figures from 1990 show that rural students have 51 percent rate of continuing to post secondary education compared to the 63 percent rate of their nonrural counterparts (Center for Rural Pennsylvania, 1994). In a society where jobs for the minimally educated are fast disappearing, the undereducated are indeed "at risk."

The Rural Problem. The trend in economies of rural areas is a change from crop production, small manufacturing, and extraction (coal mining and logging), to construction or service industries. Rural communities often have a single employer rather than a pool of employers in the local job market (McGranahan, 1988). This factor means that rural areas have been especially vulnerable to job loss, especially from foreign imports and changes in regulations. Due to the combination of fluctuations in supply and demand, regulatory changes, and foreign competition, rural job growth will lag behind urban areas well into the next century (U.S. Dept of Agriculture, 1992).

These factors result in rural areas with special problems. In Pennsylvania, an average of 29.6 percent households across the state are low income, while 36.3 percent of the households in rural counties are low income (Center for Rural Pennsylvania, 1993).

The Urban Problem. Inner cities face severe economic problems and often their high schools have the highest dropout rates. Like their rural counterparts, the urban students will find a job market which demands an education and skills in language and mathematics beyond those needed by earlier generations (POICC, 1994). Most jobs will require post secondary education. Many of the jobs where openings occur will require some technical training and computer skills. It is important to motivate the urban students to stay in high school; however, the important message is that their educational needs do not stop at this point.

Two Intervention Programs

Increasing the "at risk" students' awareness of higher education and careers involved designing and conducting two different programs. The programs each had a different target group. Connecting Cultures was for Pennsylvania's rural youth. See the Future was for minorities from three major urban areas in Pennsylvania. Both programs, however, had many similarities. They targeted the same age group, the middle-school-aged student, since decisions about subjects like math and science are based

on attitudes formed prior to high school (Goodwin, 1985). Both programs recruited high-potential youth who were also recommended by their teacher and guidance counselor. Both were resident programs with both a social and an academic focus. Both programs attempted to bring the parents or guardians to campus.

Connecting Cultures. In summer 1994, the Connecting Cultures Program invited 52 high-potential middle-school aged students to a small university campus in Central Pennsylvania. Students were identified primarily by their teachers and guidance counselor. All participants were caucasian and from a small rural school district. The school district was located in an area where 72.5 percent of adults are high school graduates, but only 10.3 percent are college graduates with bachelor's degrees. In 1993, the county of the participants had 42.6 percent of the households listed as female headed. In addition, 47.7 percent of the married couples and 42.6 percent of the households headed by females in this region were below the poverty level (PA State Data Center, 1993). With such demographics, the program directors felt that a majority of the participants came from backgrounds where at least one risk factor was certain. The program was a rural youth initiative sponsored by the Pennsylvania Department of Education.

Students and their families were exposed to social and academic life on a small college campus. Connecting Cultures was a four-day resident program with campus tours and classes in language, computers, and sciences. Parents visited campus for a financial aid night and were invited back for the program culmination.

See the Future. In summer 1990, a week-long resident program was conducted on a large university campus for minority youth from three of Pennsylvania's major urban areas. See the Future was sponsored by Penn State's Equal Opportunity Planning Committee and the American Nuclear

Society. Thirty students were invited to campus for a week of classroom and lab experiences in the areas of science and engineering.

Many students were brought to campus by their families, although some of the guidance counselors and teachers transported the See the Future students to campus. Due to the distances from the urban areas to campus, fewer of the See the Future families were able to visit campus. The representative minorities were African-American (25), Native American (1), Asian-American (2), and Latino/Hispanic-American (2).

Group Comparison

A survey was part of each program's orientation. The twenty items focused on motivation, general interest, science interest and peer relationships. Items had a five-point Likert scale, with the lowest number corresponding to low interests and the highest number corresponding to high interests. Independent T-tests were used to contrast the two groups. Thirty participants from each program completed the survey. For 58 degrees of freedom, the significant values of T are 1.96 ($p<.05$) and 2.576 ($p<.01$). Chi square tests were calculated on the individual items within each group. For four degrees of freedom, the significant Chi square values are 9.49 ($p<.05$) and 13.28 ($p<.01$).

Results. Table I summarizes the group contrasts. In the group of general interest items, the STF (urban minority) students measured significantly higher ($p<.01$) than the CC (rural) students on all items but one. The item "I can think of may things I want to be" produced significant Chi square values ($p<.01$) in both groups (Table II); however, the group contrast was not significant.

For the motivation items, the first three items did not reveal significant differences between the groups, but these items each produced had significant Chi square values ($p<.01$) within their groups. For the item "I try to find out about new discoveries in science," the STF students averaged a significantly higher value ($p<.01$). The STF students were also higher ($p<.05$) for the item "I always

try to do my best in school." For the item "I will take harder subjects in school," the CC students were significantly higher than the STF students ($p<.01$).

In the science interest group, the two non-significant items "I like knowing what scientists do" and "Everyone should know about science and math" had significant Chi square values within their groups. All other items in this group had higher agreement from the STF students. Items where the STF agreement was stronger at the <.01 level are: "I watch science shows on TV," "I'm thinking about being a scientist," and "Science is important everyday." STF agreement was stronger at the $p<.05$ level for "I like using science and math" and "Science is interesting to me."

Both peer relationship items produced significant Chi square results in their respective groups; however, the CC students agree more strongly with the statement "My friends like science and math as much as I do" ($p<.05$). The other statement "I'll have fewer friends if I do well in school" did not produce a significant T contrast, but did have significant Chi square values within each group ($p<.01$) signifying a high level of disagreement with this statement.

Discussion

The present study describes two different "at risk" populations as being both well motivated and interested in continuing their education. No significant difference between items relating to motivation, "I want to go to college" and "I will always take school courses that challenge me," reveals that the rural students are as well motivated as their urban minority counterparts to continue their education.

The general pattern in the T contrasts is that the STF students have higher levels of interest than their rural counterparts. However, the CC students had significant levels of interest as shown on the Chi square tests in Table II. For the Chi square tests, only three items in the CC group were nonsignificant. The CC participants were not interested in "becoming a scientist," "problem solving"

or "watching science shows on TV." All other Chi square tests show significant levels of agreement for their respective items.

Reasons for rural youth's low participation in higher education certainly warrant further study. Typically, youth are not studied until they have dropped out of school. The participants in the Connecting Cultures program came from a rural school district classified as "poor" by The Center for Rural Pennsylvania. A majority of the STF students, who came from three urban counties, also attended "poor" schools (Center for Rural Pennsylvania, 1991); however, some of the STF students attended private schools.

Overall, funding and special programs are less for rural schools, and fewer of the students enroll in academic curricula (Stern, 1994). Perhaps rural youth, not traditionally considered "at risk" in the same manner as urban minorities, have been neglected in programs providing educational opportunity. In 1994, the U. S. Department of Education had no programs specifically for rural students. Also, the per-pupil expenditure for rural schools is lower than for urban schools. In 1989, the per-pupil expenditures of rural schools in Pennsylvania was only 88 percent of that spent on an urban pupil (Center for Rural Pennsylvania, 1991).

Conclusions

Urban and rural youth are similarly "at risk" with significant proportions of both groups being affected by multiple risk factors (Stern, 1994). Also, rural students seemed to be just as motivated, just less interested in certain areas. Rural schools,however, have less funding and fewer special programs to provide educational opportunity for young people (Center for Rural Pennsylvania, 1991). From the present study, it remains unclear that the lower funding levels and lack of motivational or academic programs is the reason rural students have chronically low post secondary attendance. Long-term monitoring of pre-college program attendees will be needed to show the programs' effects. Such

programs need to be long-term sustained efforts to help students continue educationally. See the Future has been repeated, but the state funding for Connecting Cultures, a rural youth initiative, has been discontinued.

We know that educational level is a primary determiner of socio-economic status. Attempts to raise socio-economic status of future generations via education should be a strategic part of revitalization efforts for our depressed rural and inner-city economies. Motivational factors are complex and not well understood in young "at risk" adolescents. Pre-college programs such as Connecting Cultures and See the Future hope to contribute by helping young adolescents who have the greatest need to set long-term educational goals.

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Table I.
T-Test Contrasts Between Connecting Cultures (CC)
and See The Future (STF) Participants

Statement	Mean CC	Mean STF	T(58) p
General Interest			
I am curious about how things work	3.867	4.467	.004**
I enjoy problem solving.	3.133	3.9	.005**
I can think of many things I want to be	3.7	4.267	.069
School is always interesting to me	3.0	4.033	.000**
I like finding out about different jobs	3.867	4.567	.001**
Motivation			
I will always take school courses that challenge me	3.9	4.267	.17
I want to go to college	4.733	4.933	.23
I'm not afraid to ask questions in school	4.4	4.1	.134
I try to find out about new discoveries in science	3.767	4.5	.004**
I always try to do my best in school	4.367	4.767	.02*
I will take harder subjects in school	4.133	2.333	.000**
Science Interest			
I like knowing what scientists do	3.9	4.233	.202
I watch science shows on TV	3.0	3.767	.009**
I'm thinking about being a scientist	2.833	4.2	.000**
I like using science and math	3.733	4.333	.032*
Science is interesting to me	4.1	4.633	.043*
Science is important every day	4.033	4.667	.004**
Everyone should know about science and math	4.033	4.333	.307
Peer Relationships			
My friends like science and math as much as I do	3.067	2.467	.041*
I'll have fewer friends if I do well in school ***	1.433	1.233	.392

Notes:
* $p < 0.05$
** $p < 0.01$
*** reports the "disagree, strongly disagree" responses

Table II.
One-Way Chi Square Tests of Connecting Cultures (CC)
and See The Future (STF) Participants

Statement	$X^2(4)$	
General Interest	CC	STF
I am curious about how things work	19.86**	32.33**
I enjoy problem solving.	3.853	11.66*
I can think of many things I want to be	23.15**	28.64**
School is always interesting to me	14.00**	16.33**
I like finding out about different jobs	15.78**	34.33**
Motivation		
I will always take school courses that challenge me	19.72**	32.65**
I want to go to college	91.78**	92.33**
I'm not afraid to ask questions in school	28.31**	14.32**
I try to find out about new discoveries in science	12.05*	26.99**
I always try to do my best in school	35.99**	58.33**
I will take harder subjects in school	16.56**	13.97**
Science Interest		
I like knowing what scientists do	11.05*	19.63**
I watch science shows on TV	7.491	12.31*
I'm thinking about being a scientist	5.665	17.63**
I like using science and math	26.72**	16.33**
Science is interesting to me	27.52**	62.32**
Science is important every day	29.52**	42.33**
Everyone should know about science and math	24.26**	32.99**
Peer Relationships		
My friends like science and math as much as I do	10.78*	11.99*
I'll have fewer friends if I do well in school ***	75.17**	80.32**

Notes:
* $p < 0.05$
** $p < 0.01$
*** reports the "disagree, strongly disagree" responses